

PATENT ABSTRACTS OF JAPAN

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(54) MANUFACTURE OF MEDIUM-OR LOW-CARBON FERROMANGANESE

(57)Abstract:

PURPOSE: To obtain medium- or low-carbon ferromanganese more economically than by conventional decarburizing processes, by subjecting molten high-carbon ferromanganese to blowing with dividing the process into two stages, the former stage of higher decarburizing oxygen efficiency and the latter stage of lower decarburizing oxygen efficiency, and by adding Mn oxides and reducing agents in the course of the above stages so as to control the amount of Mn in the molten metal.

CONSTITUTION: The molten high-carbon ferromanganese usually of about 1,300W1,400°C is decarburized by means of top blowing of O₂ gas and bottom blowing of O₂ gas and inert gas until C concentration comes to about 2%. Then top blowing of O₂ into the molten metal after the above decarburizing treatment is stopped and, with combining bottom blowing of O₂ gas with bottom blowing of inert gas, decarburization is continued until the desired C quantity is reached. At this time, the ratio of the amount of O₂ gas to the amount of inert gas is reduced according to the progress of decarburization. Moreover, Mn oxides and reducing agents are added to the molten metal in the course of the above two stages and/or after the conclusion of the latter stage. In this way, the progress of decarburization can be effectively controlled, so that medium- or low-carbon ferromanganese can be obtained more economically than by conventional silicide process or other oxygen-decarburizing processes.